

What is claimed is:

1           1.     A method of determining which entity in an Internet Protocol (IP) network  
2 will establish Quality of Service (QoS), wherein the IP network is comprised of a user node,  
3 comprising the steps of:

4           transmitting, by the IP network, a message indicating which of at least one of the user  
5           node and the IP network is capable of establishing QoS; and  
6           selecting, by the user node, one of the IP network and the user node to establish QoS, if  
7           the IP network indicates that both the user node and the IP network are capable of  
8           establishing QoS.

1           2.     The method as recited in claim 1, wherein the user node is a mobile terminal.

1           3.     The method as recited in claim 1, wherein the message transmitted by the IP  
2 network is a broadcast message to any IP node which can receive it.

1           4.     The method as recited in claim 3, wherein the message transmitted by the IP  
2 network is a Mobile IPv4 Agent Announcement message, and wherein the Mobile IPv4 Agent  
3 Announcement message contains at least one field to indicate which of at least one of the user  
4 node and the IP network is capable of establishing QoS.

1           5.     The method as recited in claim 3, wherein the message transmitted by the IP  
2 network is a Router Advertisement message, and wherein the Router Advertisement message  
3 contains at least one field to indicate which of at least one of the user node and the IP network is  
4 capable of establishing QoS.

1                   6.     The method as recited in claim 5, wherein the Router Advertisement  
2 message is one of an IPv4 Router Advertisement message and an IPv6 Router Advertisement  
3 message.

1                   7.     The method as recited in claim 1, wherein the message transmitted by the IP  
2 network is a message transmitted during a registration procedure of the user node.

1                   8.     The method as recited in claim 7, wherein the message transmitted during  
2 the registration procedure of the user node is a Mobile IPv4 Registration Reply message, and  
3 wherein the Mobile IP Registration Reply message contains at least one field to indicate which of at  
4 least one of the user node and the IP network is capable of establishing QoS.

1                   9.     The method as recited in claim 7, wherein the message transmitted during  
2 the registration procedure of the user node is a Mobile IPv6 Binding Acknowledgement message,  
3 and wherein the Mobile IPv6 Binding Acknowledgement message contains at least one field to  
4 indicate which of at least one of the user node and the IP network is capable of establishing QoS.

1                   10.    The method as recited in claim 7, wherein the message transmitted during  
2 the registration procedure of the user node is a Session Initiation Protocol (SIP) OK message in  
3 response to a SIP REGISTER message transmitted by the user node, and wherein the OK message  
4 contains at least one field to indicate which of at least one of the user node and the IP network is  
5 capable of establishing QoS.

1                    11.     The method as recited in claim 1, wherein the message transmitted by the IP  
2 network is a message transmitted during a session setup procedure.

1                    12.     The method as recited in claim 1, wherein the step of selecting, by the user  
2 node, one of the IP network and the user node to establish QoS, comprises:  
3                    transmitting, by the user node to the IP network, a message selecting one of the user node  
4                    and the IP network to establish QoS.

1                    13.     The method as recited in claim 12, wherein the message transmitted by the  
2 user node is a message transmitted during a registration procedure of the user node.

1                    14.     The method as recited in claim 13, wherein the message transmitted during  
2 the registration procedure of the user node is a Registration Request message, and wherein the  
3 Registration Request message contains at least one field selecting one of the user node and the IP  
4 network to establish QoS.

1                    15.     The method as recited in claim 14, wherein the Registration Request  
2 message is one of a Mobile IPv4 Registration Request message, a Mobile IPv6 Binding Request  
3 message, and a User Registration Protocol (URP) registration message.

1                    16.     The method as recited in claim 13, wherein the message transmitted during  
2 the registration procedure of the user node is a Session Initiation Protocol (SIP) REGISTER  
3 message, and wherein the REGISTER message contains at least one field to select one of the user  
4 node and the IP network to establish QoS.

1                   17.     The method as recited in claim 12, wherein the message transmitted by the  
2 user node is a message transmitted during a session setup procedure of the user node.

1                   18.     The method as recited in claim 17, wherein the message transmitted during  
2 the session setup procedure of the user node is a Session Initiation Protocol (SIP) INVITE message,  
3 and wherein the INVITE message contains at least one field to select one of the user node and the  
4 IP network to establish QoS.

1                   19.     A system for determining which entity in an Internet Protocol (IP) network  
2 will establish Quality of Service (QoS), comprising the steps of:  
3                   a user node; and  
4                   an IP network for transmitting a message indicating which of at least one of the user node  
5                   and the IP network is capable of establishing QoS;  
6 wherein the user node is operable for selecting one of the IP network and the user node to  
7 establish QoS, if the IP network indicates in the transmitted message that both the  
8 user node and IP network are capable of establishing QoS.

1                   20.     The system as recited in claim 19, wherein the user node is a mobile  
2 terminal.

1                   21.     The system as recited in claim 20, wherein the mobile terminal is one of a  
2 cellular telephone, a Personal Digital Assistant (PDA), and a laptop computer.

1                   22.    The system as recited in claim 19, wherein the IP network is a wireless  
2 broadcast network.

1                   23.    The system as recited in claim 19, wherein the IP network message is one of  
2 a IP Router Advertisement message, Mobile IP Agent Announcement message, a User Registration  
3 Protocol (URP) registration message, and a Mobile IP Registration Reply message, and wherein the  
4 IP network message has at least one field which indicates which of at least one of the user node  
5 and the IP network is capable of establishing QoS.

1                   24.    The system as recited in claim 19, wherein the IP network message is a  
2 Session Initiation Protocol (SIP) OK message in response to a SIP REGISTER message transmitted  
3 by the user node, and wherein the SIP OK message contains at least one field to indicate which of at  
4 least one of the user node and the IP network is capable of establishing QoS.

1                   25.    The system as recited in claim 19, wherein the user node indicates the  
2 selection by means of a selection message to the IP network.

1                   26.    The system as recited in claim 25, wherein the selection message is a  
2 message transmitted during one of a registration procedure of the user node and a session setup  
3 procedure of the user node.

1                   27.    The system as recited in claim 25, wherein the selection message is one of a  
2 SIP REGISTER message and a SIP INVITE message, and wherein the selection message contains  
3 at least one field for selecting one of the user node and the IP network.

- 1                   28.     The system as recited in claim 25, wherein the selection message is a Mobile
- 2     IPv4 Registration Request message, a Mobile IPv6 Binding Update message, a User Registration
- 3     Protocol (URP) registration message, and wherein the selection message contains at least one field
- 4     for selecting one of the user node and the IP network to establish QoS.